14

## SEQUENCE LISTING

(1) GENERAL INFORMATION:

5

10

15

- (i) APPLICANT:
  - (A) NAME: De Staat der Nederlanden
  - (B) STREET: P.O. box 1
  - (C) CITY:\Bilthoven
  - (D) STATE:\Utrecht
  - (E) COUNTRY: The Netherlands
  - (F) POSTAL CODE (ZIP): 3720 BA

(ii) TITLE OF INVENTION: Novel mutants of gramnegative mucosal bacteria and application thereof in vaccines.

- (iii) NUMBER OF SEQUENCES: 4
- (iv) COMPUTER READABLE FORM:
  - (A) MEDIUM TYPE: Floppy disk
  - (B) COMPUTER: IBM PC compatible
  - (C) OPERATING SYSTEM PC-DOS/MS-DOS
  - (D) SOFTWARE: PatentIn Release #1.0, Version #1.25 (EPO)

25

30

20

- (2) INFORMATION FOR SEQ ID NO: 1:
  - (i) SEQUENCE CHARACTERISTICS:
    - (A) LENGTH: 27 base pairs
    - (B) TYPE: nucleic acid
    - (C) STRANDEDNESS: single
    - (D) TOPOLOGY: linear
    - (ii) MOLECULE TYPE: cDNA

35

- (vi) ORIGINAL SOURCE:
  - (A) ORGANISM: E. coli
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:

	ACTGACGCGT GTGATTGATA AATCCGC	27
	(3) INFORMATION FOR SEQ ID NO: 2:	
5	(i) SEQUENCE CHARACTERISTICS:	
	(A) LENGTH: 30 base pairs	
	(B) TYPE: nucleic acid	
	(C) STRANDEDNESS: single	
	(D) TOPOLOGY: linear	
10		
	(ii) MOLECULE TYPE: cDNA	
	(vi) ORIGINAL SOURCE:	
	(A) ORGANISM:\E. coli	
15		
Λ		
<b>(</b> )	(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:	
	GTAGGGCGC ACGTCCTGCG CCACACCGGA	30
\ 20	diaddoddo Acdiolidd Cononcolol	3-
<i>)</i>	(4) INFORMATION FOR SEQ ID NO: 3:	
	(i) SEQUENCE CHARACTERISTICS:	
	(A) LENGTH: 30 base pairs	
25	(B) TYPE: nucleic acid	
29	(C) STRANDEDNESS: single	
	(D) TOPOLOGY: linear	
	(b) foroLodi. Timear	
	(ii) MOLECULE TYPE: cDNA	
30		
	(vi) ORIGINAL SOURCE:	
	(A) ORGANISM: N. meningitidis	
	(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 3:	
35		
	TCCGGTGTGG CGCAGGACGT GCCGCCCTAC	30
	(5) INFORMATION FOR SEQ ID NO: 4:	

5

(i)	SEQUENCE CHARACTERISTICS:		
	(A)	LENGTH: 25 base pairs	
	(B)	TYPE: nucleic acid	
	(C)	STRANDEDNESS: single	
	(D)	TOPOLOGY: linear	

(ii) MOLECULE TYPE: cDNA

(vi) ORIGINAL SOURCE (A) ORGANISM: N meningitidis

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4:

15 CGGCCGCTCT AGAACTAGTG GATCA 25